What is claimed is:

1. A spatial light modulator, comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

a deflectable member positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the member configured to deflect from a rest position to at least one operative position when electrostatically attracted to at least one address electrode located on the semiconductor substrate; and

a reset electrode operable to reset the deflectable member to the rest position.

2. The spatial light modulator of claim 1 wherein the reset electrode is positioned on at least one of the optically transmissive substrate and the semiconductor substrate.

3. The spatial light modulator of claim 2 wherein the reset electrode has a voltage potential sufficient to overcome electrostatic attraction between the deflectable member and the address electrode.

4. The spatial light modulator of claim 2 wherein the reset electrode is composed of optically transparent conductive material.

5. The spatial light modulator of claim 4 wherein the optically transparent conductive material is an oxide that includes at least one material comprising tin and a Group III element.

6. The spatial light modulator of claim 4 wherein the optically transmissive substrate has an upper face distal to the semiconductor substrate

and an opposed lower face, and wherein the transparent conductive material is positioned on the lower face of the optically transmissive substrate.

7. The spatial light modulator of claim 1 wherein the optically transmissive layer and the semiconductor substrate define a sealed chamber, the spatial light modulator further comprising a fluid contained in the sealed chamber.

8. The spatial light modulator of claim 1 further comprising a voltage controller, the voltage controller operable on the at least one address electrode and reset electrode to actuate deflection and reset of the deflectable member.

9. The spatial light modulator of claim 1 wherein the deflectable member is reflective.

10. The spatial light modulator of claim 1 wherein the semiconductor substrate and optically transmissive substrate include at least one region in which the semiconductor substrate is in direct bonded relationship to the optically transmissive substrate.

11. A digital micromirror comprising:

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate, the mirror member deflectable between a rest position and at least one operative position;

at least one address electrode operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential; and

at least one reset electrode operable on the deflectable mirror

member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential, wherein the reset electrode voltage potential is sufficient to overcome the address electrode voltage potential.

12. The digital micromirror of claim 11 wherein the reset electrode is positioned between the deflectable mirror member and one of the optically transmissive substrate and the semiconductor substrate.

13. The digital micomirror of claim 11 wherein the reset electrode is positioned between the optically transmissive substrate and the deflectable mirror member, the reset electrode composed of optically transparent conductive material.

14. The digital micromirror of claim 11 wherein the optically transmissive substrate and the semiconductor substrate define a sealed chamber, the digital micromirror further comprising a fluid contained in the sealed chamber.

15. The digital micromirror assembly of claim 11 further comprising a voltage controller, the voltage controller operable on the address and reset electrodes to actuate deflection and reset of the deflectable mirror member.

16. A micro-electromechanical device comprising:

a substrate;

an optically transmissive layer disposed a spaced distance from the substrate, wherein the substrate and the optically transmissive layer define at least one cavity, the cavity containing a dielectrophoretic fluid;

a support structure coupled to one of the substrate or the optically transmissive layer, the support structure contained within the cavity;

a transparent conductive material positioned on the optically transmissive layer; and

a reflective element coupled to the support structure, the reflective

element configured to deflect between a rest position and at least one operative position when electrostatically attracted to an address electrode located on the substrate and return to the rest position when subjected to an electrostatic force generated by the transparent conductive material.

17. The micro-electromechanical device of claim 16 wherein the reflective element comprises a substantially rigid reflective plate.

18. The micro-electromechanical device of claim 16 wherein the support structure further comprises a ground electrode attached to the reflective element, wherein the ground electrode is electrically coupled to the substrate and configured for selective actuation of the electronic circuitry.

19. The micro-electromechanical device of claim 16 wherein the support structure comprises at least one hinge and at least one post, the at least one post connected to at least one of the optically transmissive layer and the substrate, and the at least one hinge extending from the at least one post and into connection with the reflective element.

20. A display device, comprising:

a light source for providing a beam of light along a light path;

a micromirror device on the light path for selectively reflecting portion of the beam of light along a second light path in response to image data signals; and

a controller for providing image data signals to the micromirror device;

wherein the micromirror device includes:

a semiconductor substrate;

an optically transmissive layer connected to and disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive layer,

the mirror member deflectable between a rest position and at least one operative position; and

at least one reset electrode operative on the mirror member to move the mirror member from the operative position to the rest position, the reset electrode positioned on one of the semiconductor substrate and the optically transmissive layer.

21. The display device of claim 20 wherein the reset electrode is disposed between the mirror member and the optically transmissive layer, the electrode composed of a transparent electroconductive material.

22. The display device of claim 20 wherein the semiconductor substrate and optically transmissive layer form a sealed cavity, the sealed cavity containing the deflectable mirror member and a dielectrophoretic fluid.

23. The display device of claim 20 wherein the reset electrode is a high voltage electrode.

24. A method for resetting at least one digital micromirror comprising the steps of:

applying a bias voltage to a reset electrode associated with a deflectable micromirror assembly, and

discontinuing application of the bias voltage after deflection of a micromirror within the assembly from an operative position.

25. The method of claim 24 wherein the micromirror assembly includes:

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate;

at least one address electrode operable on the deflectable mirror member to move the mirror member into at least one operable position, the address electrode having an address electrode voltage potential; and

at least one reset electrode operable on the deflectable mirror member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential, wherein the reset electrode voltage potential is sufficient to overcome the address electrode voltage potential.

26. The method of claim 25 wherein the reset electrode is a high voltage electrode.

27. The method of claim 25 wherein the reset electrode is positioned between the deflectable mirror member and one of the optically transmissive substrate and the semiconductor substrate.

28. The method of claim 25 wherein the reset electrode is positioned between the optically transmissive substrate and the deflectable mirror member, the reset electrode composed of optically transparent conductive material.

29. The method of claim 24 wherein the micromirror assembly is present in an array and the bias voltage is applied to a plurality of micromirror assemblies in the array.

30. A method of making a digital micromirror device comprising the steps of:

establishing spacer layers and patterns on a semiconductor substrate having address circuitry;

constructing elements of the digital micromirror device on the semiconductor substrate including an address electrode and a micromirror;

establishing an optically transparent substrate in sealed overlying relationship with the micromirror after removal of the spacer layers; and

establishing at least one reset electrode, the reset electrode connected to at least one of the optically transparent substrate and the semiconductor substrate, the reset electrode operating independent of the address electrode and generating a bias voltage sufficient to overcome a bias voltage produced by the address electrode.

31. The method of claim 30 wherein the reset electrode establishing step comprises attaching an optically transparent conductive material to at least one region of the optically transparent substrate.

32. The method of claim 30 further comprising the step of introducing a dielectrophoretic fluid into a sealed chamber formed between the optically transparent substrate and the semiconductor substrate.

33. A method for modulating light, comprising the steps of:

providing a spatial light modulator, including:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

at least one mirror member deflectable between a rest position and at least one operative position, the at least one mirror member supported by one of the optically transmissive substrate and the semiconductor substrate, the at least one mirror member operable to deflect when electrostatically attracted to at least one address electrode located on the semiconductor substrate; and

a reset electrode operable to reset the at least one mirror member to the rest position;

providing an incoming light beam that passes through the optically transmissive substrate;

applying a bias voltage between the at least one mirror member and the address electrode so as to deflect the at least one mirror member due to electrostatic attraction;

reflecting light back through the optically transmissive substrate and into an imaging target with the at least one mirror member in the operative position; and

applying a bias voltage to a reset electrode, the bias voltage sufficient to overcome electrostatic attraction to the address electrode.

34. A spatial light modulator, comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

means for selectively reflecting light, the light reflecting means positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the light reflecting means configured to deflect from a rest position to at least one operative position; and

means for resetting the light reflecting means to the rest position.

35. The spatial light modulator of claim 34 wherein the resetting means is connected to one of the optically transmissive substrate and the semiconductor substrate.

36. The spatial light modulator of claim 34 wherein the resetting means generates an electrostatic force operable on the light reflecting means and functions independent of electronic circuitry present in the semiconductor substrate.